

ABSTRACT

Well completion cement may be pumped through a side pocket mandrel that includes parallel rows of filler sections to exclude cement from void space within the side pocket tube. The filler sections are drilled with cross-flow jet channels and surface upsets to stimulate scrubbing turbulence by well working fluid behind a cement wiper plug. The wiper plug includes leading and trailing groups of wiper discs secured to an elongated shaft. The two wiper groups are separated by a distance that permits the leading seal group to gain traction seal before the push seal on the trailing wiper group is lost. A spring centralizer spans a center section of the shaft between the two wiper groups to maintain axial alignment of the shaft as the plug traverses the length of a mandrel.